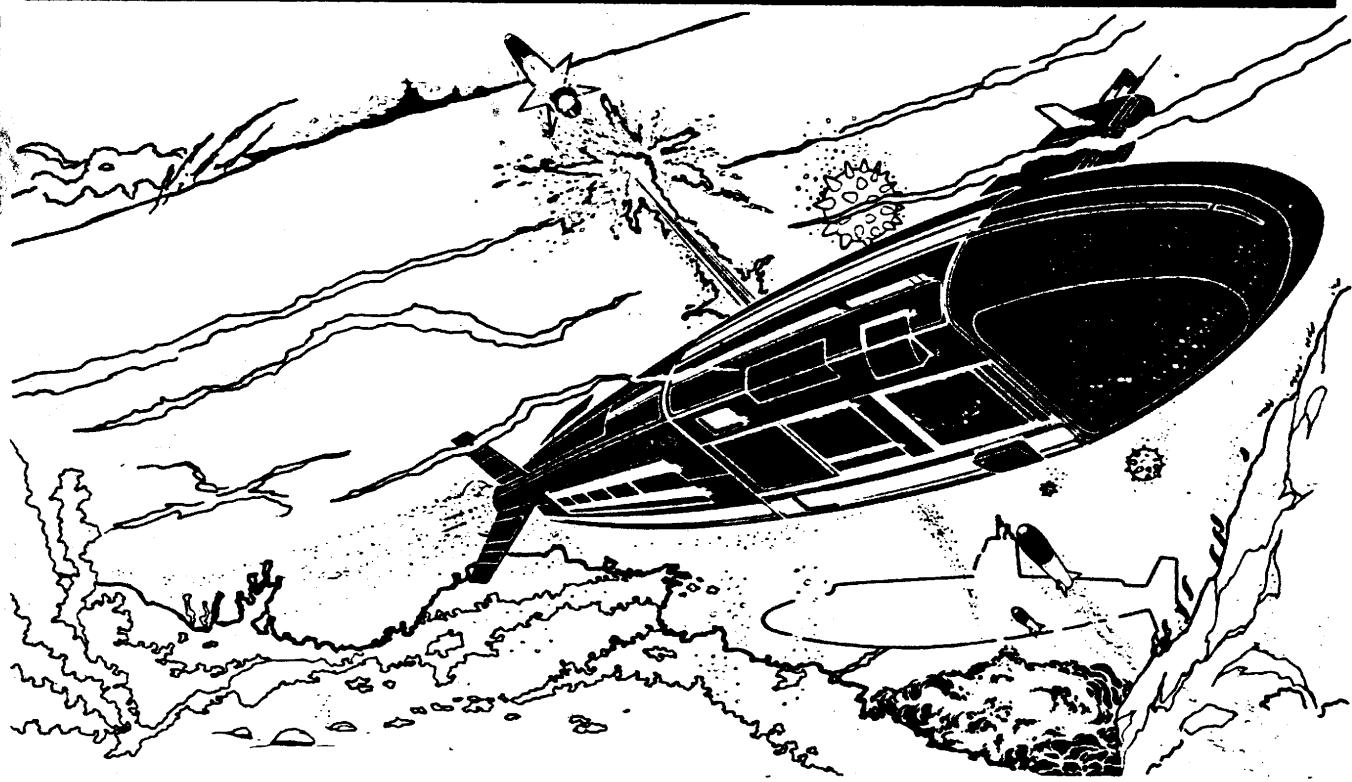


# POLARIS<sup>TM</sup>

## COLOR

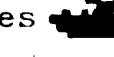


### SERVICE INSTRUCTIONS AND PARTS CATALOG



### TAITO CORPORATION

## 5. Play Instructions

- o Insert coin(s).
- o Select game 1 or 2 players.
- o Shoot jet planes  , frigates  , enemy subs  , and airplanes  for points, while avoiding enemy attack.
- o Scoring:



??? Pts.

??? Pts.

100 Pts.

50 Pts.

30 Pts.

10 Pts.



- o In a two player game, play alternates between the two after each missing.

### Additional Information:

- o Homing missiles and mines cannot be destroyed.
- o When a anti-sub airplane is hit, some mystery points (500, 1000, 1500, or 2000 points) are scored.
- o When an enemy sub is hit, some mystery points (300, 500, 700, or 900 points) are scored.
- o When score exceeds 5,000 points, one sub is added with music.
- o As the frame progresses, the bonus points increase from 1,000 to 9,000 points.
- o Game is over when all of player8s subs have been destroyed.

## 6. Adjustments on Switcing Regulator PC Board

(See Fig. 3)

Caution: The line voltages should be set within the limit.

Failure to do so may result in destruction of the IC's.

- o To check the output voltage, measure them on the G-connector or the T-connector.

(See the cable block diagram, in this manual.)

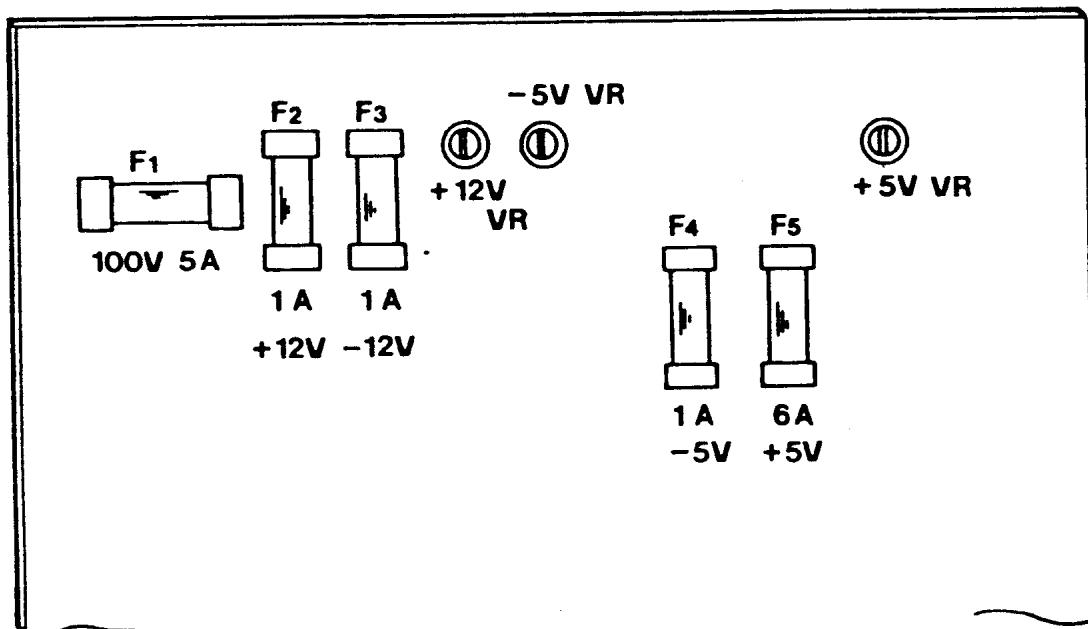


Fig. 3

- o +5V VR ... Pot for adjusting +5V DC line voltage

(Adjustable range: +4.5V to +5.5V DC)

Set approx. +5V.

- o -5V VR ... Pot for adjusting -5V DC line voltage

(Adjustable range: -5.5V to -4.5V DC.)

Set approx. -5V.

When the +5V line has no load, this -5V voltage is not present on the line.

- o +12V VR ... Pot for adjusting +12V DC line voltage

(Adjustable range: +10.8V to +13.2V DC)

Set approx. +12V.

7. Adjustments on Game PCB (See Fig. 4 and Table 1 - 3)

- o To decrease the sounds turn each pot as shown by the arrowhead.

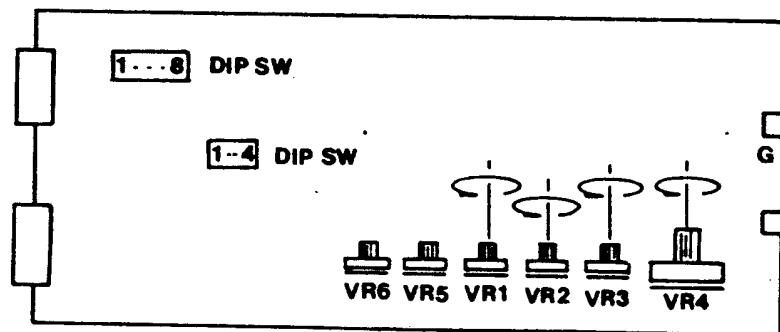


Fig. 4

- \* VR1 ... Pot for adjusting the effective sounds; firing sounds, anti-sub airplane nose diving sounds, bomb hit sounds, jet plane hit sounds, and frigate hit sounds.
- \* VR2 ... Pot for adjusting frigate appearing sounds and enemy sub hit sounds.
- \* VR3 ... Pot for adjusting the music produced when bonus points are scored or an extended play is awarded.
- \* VR4 ... Pot for adjusting the total sounds.
- \* VR5, VR6 ... These pots are for adjusting the solid-state modules, which are for factory adjustments.

Setting of DIP Switches:

DIP SW1

- \* SW1, SW2 ... Switches for changing the number of player's subs (POLARIS)

Polaris	3	4	5	6
SW 1	ON	OFF	ON	OFF
SW 2	ON	ON	OFF	OFF

Table 1

This number is preset at "3" at the factory.

- o SW3 ... Switch for Game Style

SW 3	ON	Upright Version
	OFF	T T Version

Table 2

As this game is an upright version, this switch should be set at "ON" position.

- o SW4 ... Switch for checking game features

When this switch is set at "OFF" position, no hits are made if bombs hit player's sub.

Normally, this switch should be set at "ON" position.

- o SW5 ... Switch for demonstration sounds

Effective sounds for appealing to the customers can be produced. (Polaris sounds)

SW 5	ON	No sounds are produced.
	OFF	Sounds are produced.

Table 3

- o SW6,SW7 ... These switches are not used in this game, and should be set at "OFF" positions.

- o SW8 ... Switch for Preset Mode

When this switch is set at "OFF" position, the check can be mode. When checking, each switch should be set first. Normally this switch should be set at "ON" position.

1 PLAYER START SW ... 1P's points are increased by 50 points.

2 PLAYER START SW ... 2P'S points are increased by 50 points.

1 PLAYER UP SW ..... The levele becomes high.

1 PLAYER FIRE SW .... The game starts.

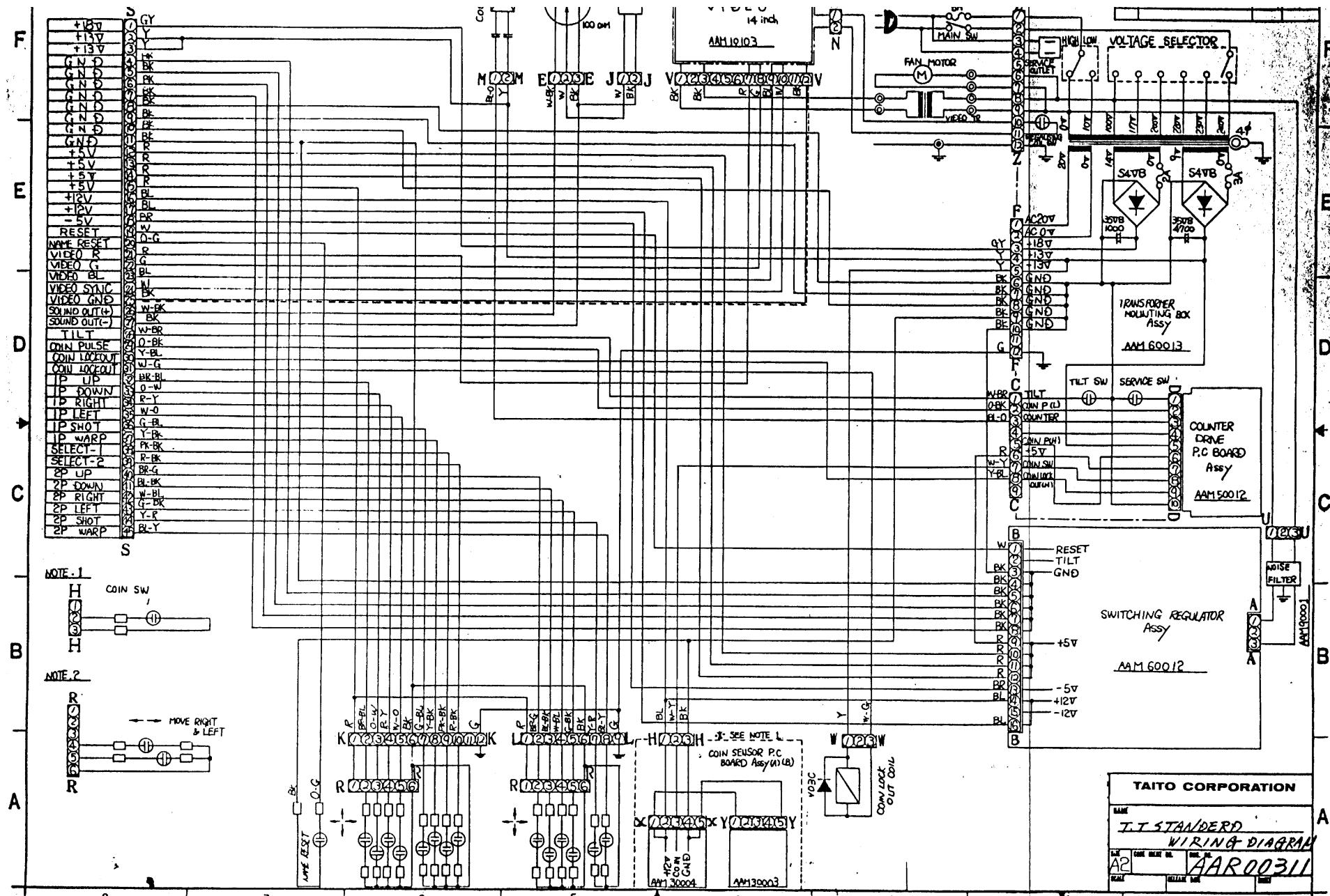
#### DIP SW2

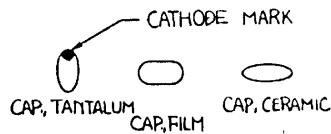
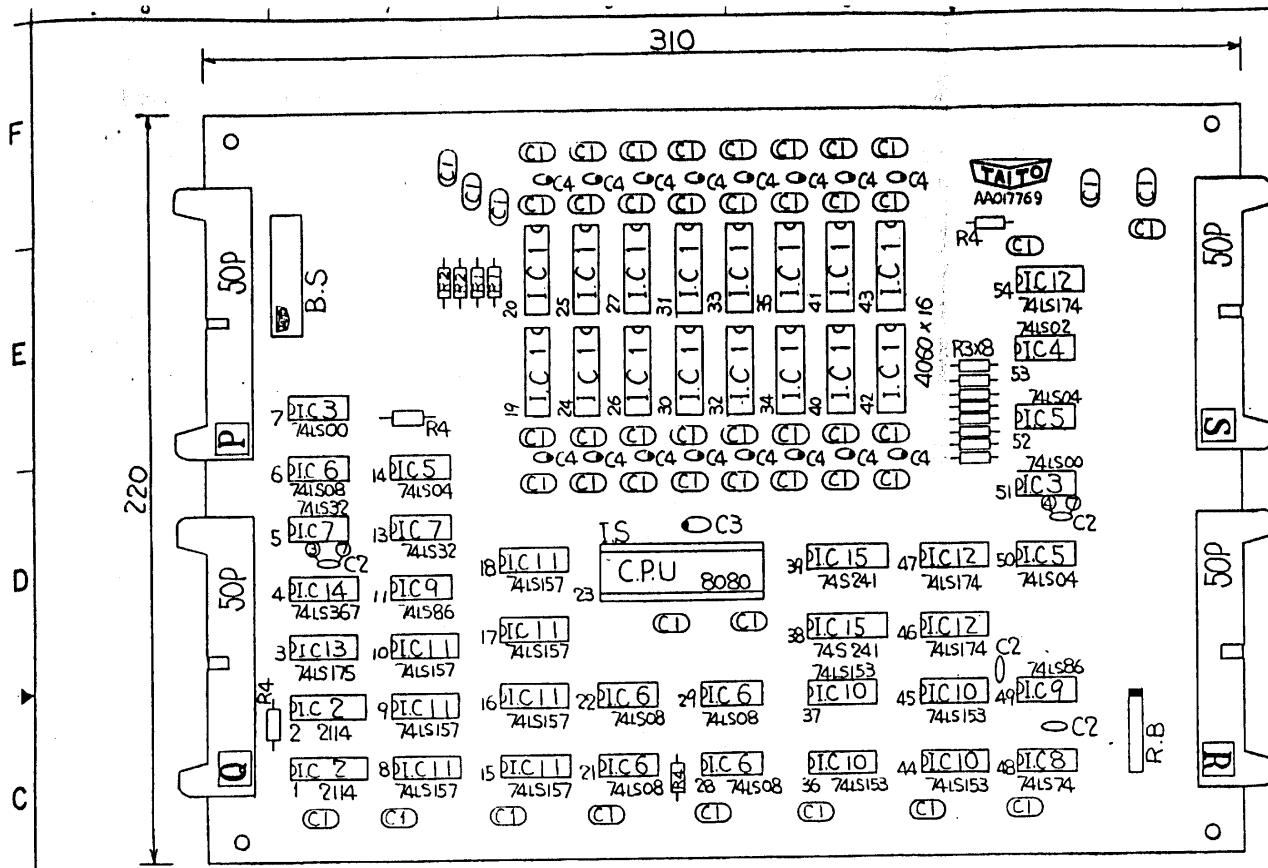
- o SW1-SW3 ... These switches are not used and ahould be set "OFF" positions.

- o SW4 ... Switch for Screen Inversion

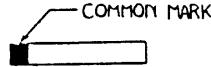
"ON" ... Inversion "OFF" ... No Inversion

Normally, this switch should be set at "OFF" position.





NOTE - 1. CAP.



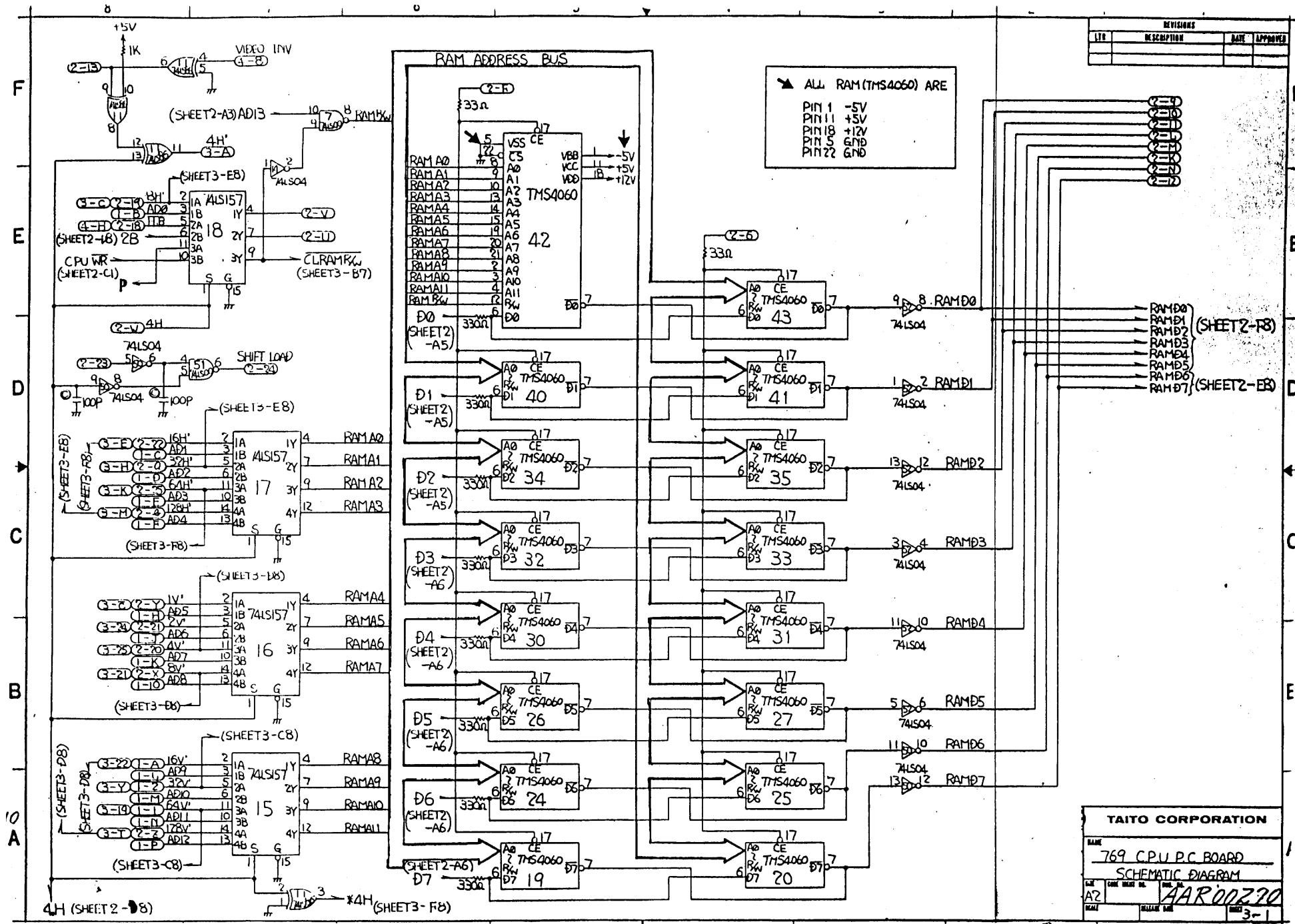
## NOTE-2. RESISTOR BLOCK

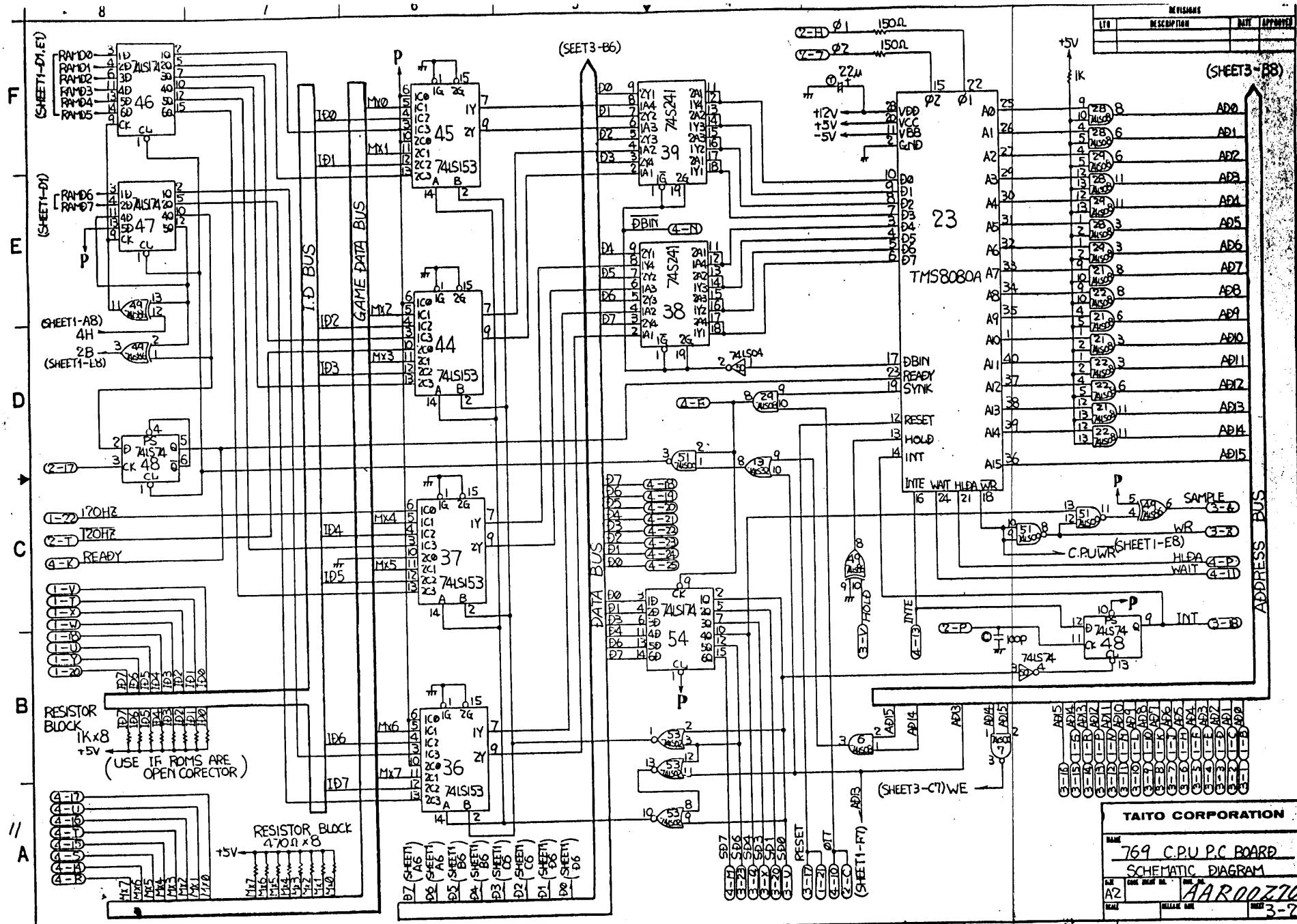
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46				
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41				
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38				
37				
36				
35				
34				
33	R.B AAT 55041	RESISTOR BLOCK 470Ωm Elements	1	
32	R4 51765	RES. CARBON 1KΩM 14W±5%	4	
31	R3 51763	330 • • •	8	
30	R2 51745	150 • • •	2	
29	R1 51789	RES. CARBON 330ΩM 14W±5%	2	
28	C4 41425	CAP. TANTALUM SSG25-1F	16	
27	C3 41424	CAP. TANTALUM SSG16-22F	1	
26	C2 41318	CAP. CERAMIC 50V 100PF	4	
25	C1 41244	CAP. FILM TDY-1H-104	49	
24	IC15 35001	BUS DRIVER 74S241	2	
23	CPU 34001	C.P.U THS8080	1	
22	IC14 33203	L.S. I.C. 74LS367	1	
21	IC13 33128	74LS175	1	
20	IC12 33127	74LS174	3	
19	IC11 33112	74LS157	7	
18	IC10 33108	74LS153	4	
17	IC9 33052	74LS86	2	
16	IC8 33051	74LS54	1	
15	IC7 33027	74LS32	2	
14	IC6 33009	74LS08	5	
13	IC5 33005	74LS04	3	
12	IC4 33003	74LS02	1	
11	IC3 33001	L.S. I.C. 74LS00	2	
10	IC2 32156	STATIC RAM 2114-4	2	
9	IC1 AAT 37208L	DYNAMIC RAM 7MS4060MU	16	
8	IS AAO 5.5B12	I.C SOCKET 40P	1	
7	50P 55154	ANGLE PIN HEADER PS-50PA	4	
6	S 17652	CONNECTOR STICKER S	1	
5	R 17659	CONNECTOR STICKER R	1	
4	Q 17656	CONNECTOR STICKER Q	1	
3	P AAO 17653	CONNECTOR STICKER P	1	
2	BS RTO 100°C	P.C. BOARD STICKER	1	
1	AAO 17759	C.P.U P.C. BOARD (B)	1	
REVISION	SYM	REFERENCE NO.	NAME	REV.

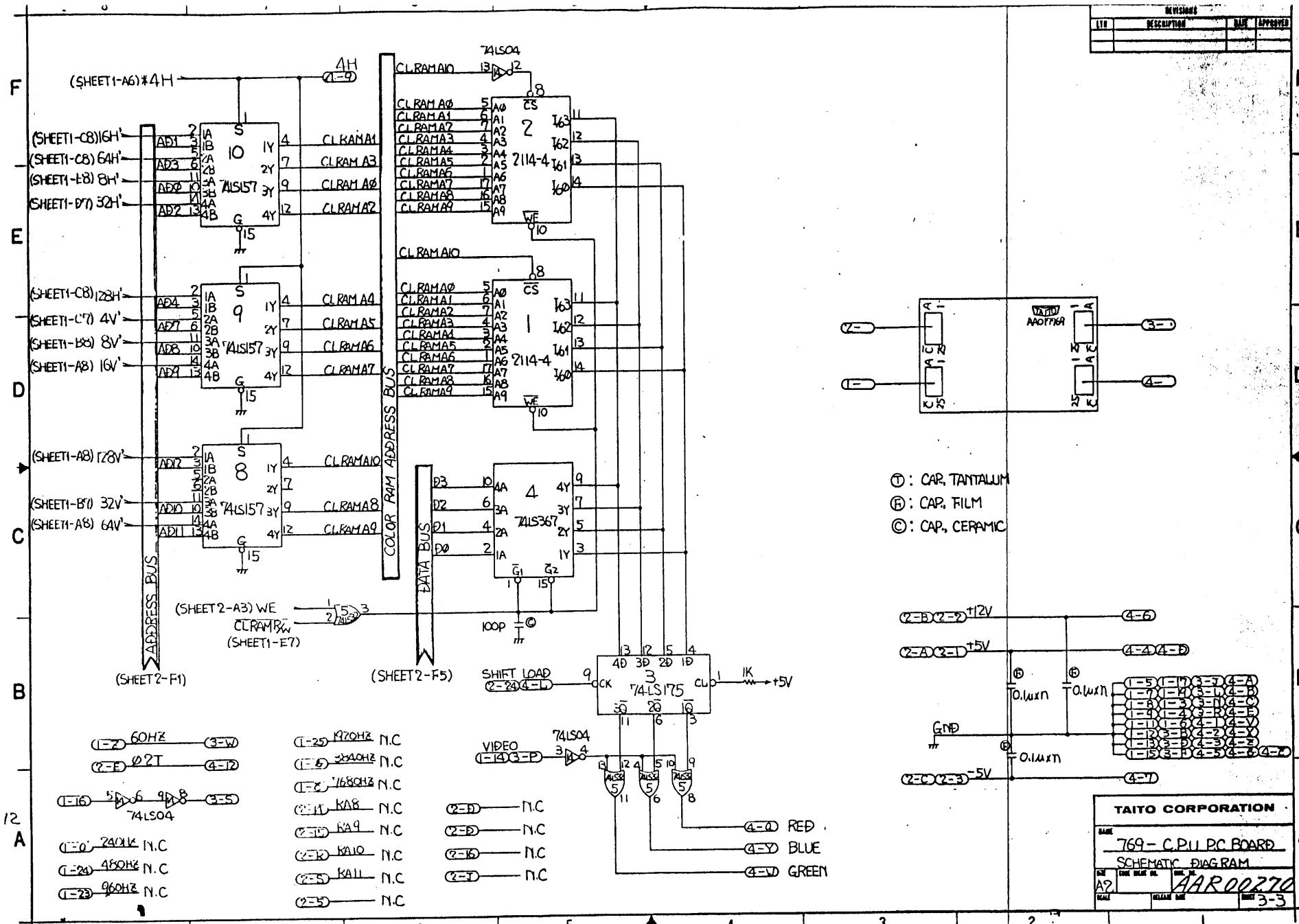
MITSU

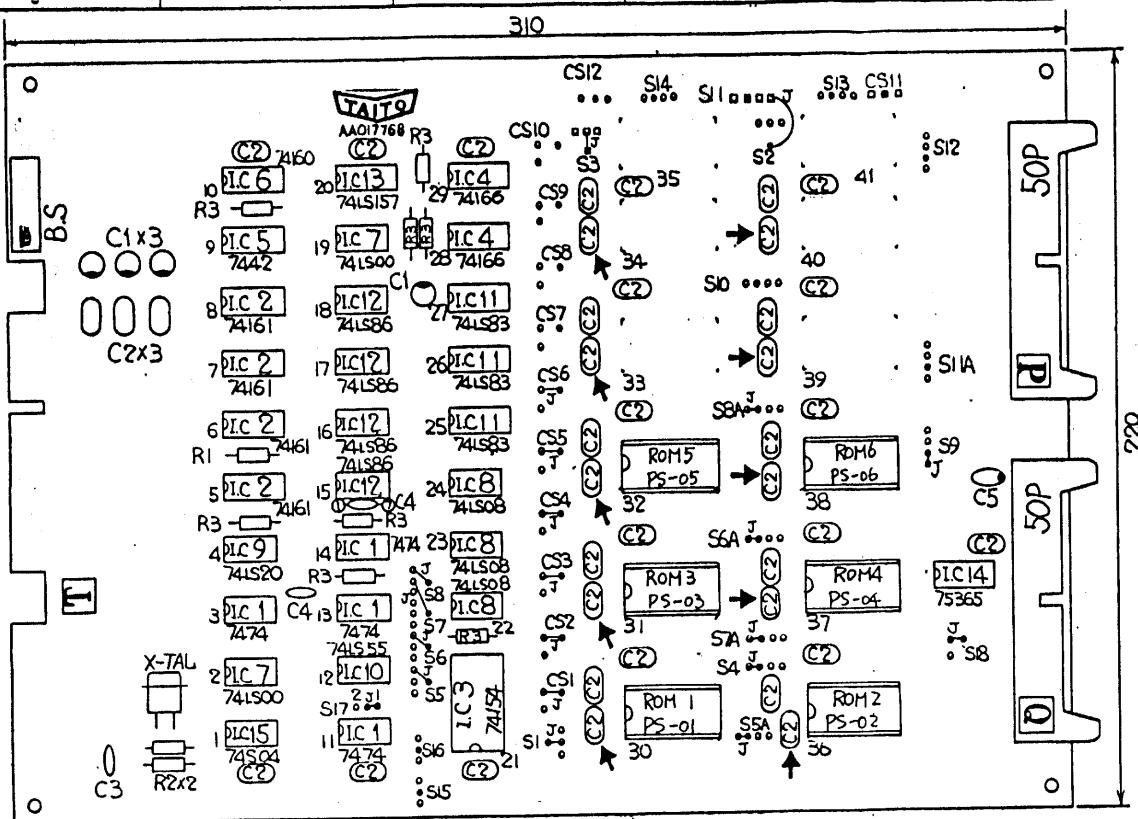
TANTO CORPORATION

~~100~~ T.T. SPACE CHASER  
769-C P.II P.C BOARD ASSY





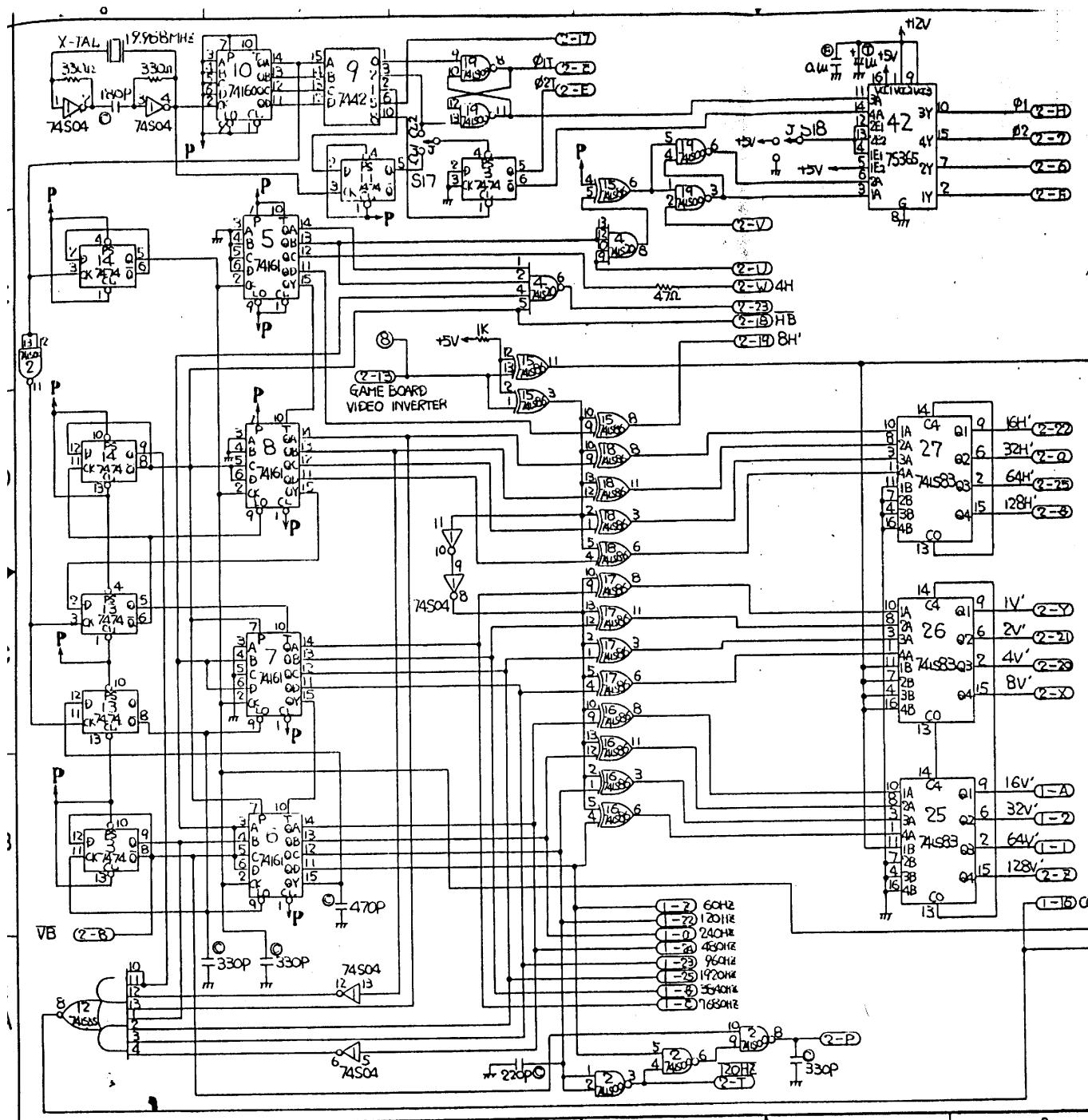




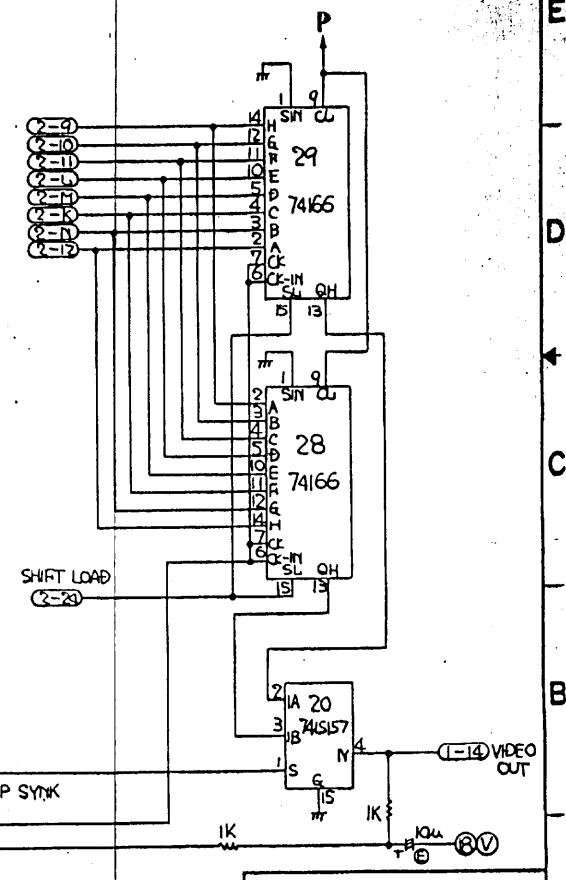
NOTE-2. NOT USE THIS MARKED (X) CAPACITOR FOR 2716 & 2316B

NOTE - 1. CAP.

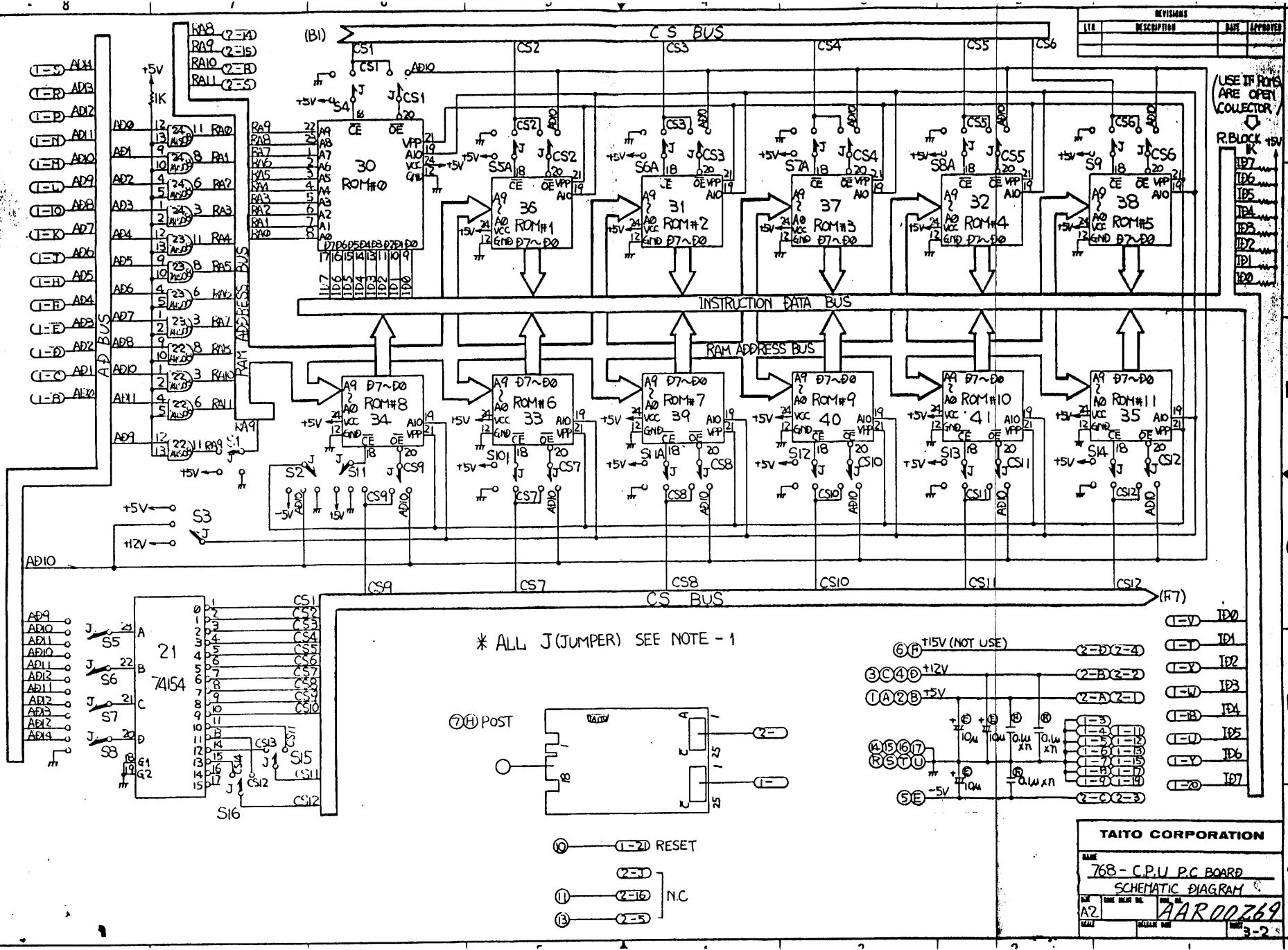
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38	ROH6	PS0 90006	P - ROM	PS-06 (2716)	1				
37	ROH5	90005		PS-05	1				
36	ROH4	90004		PS-04	1				
35	ROH3	90003		PS-03	1				
34	ROH2	90002		PS-02	1				
33	ROH1	PS0 90001	P - ROM	PS-01 (2716)	1				
32	R3	AAT 51765	RES. CARBON	1KΩM 1W 5%	8				
31	R2	51753		330	2				
30	R1	51733	RES. CARBON	47ΩM 1W 5%	1				
29	C5	41436	CAP. TANTALUM	SSG 35-1F	1				
28	C4	41334	CAP. CERAMIC	470PF	2				
27	C3	41324	CAP. CERAMIC	180PF	1				
26	C2	41244	CAP. FILM	TDY-1H-104	30				
25	C1	41037	CAP. ELECTROLYTIC	25V8-10μF	4				
24	IC15	38003	S I.C	74LS04	1				
23	IC14	35002	MOS DRIVER	75365	1				
22	IC13	331112	L.S I.C	74LS157	1				
21	IC12	33067		74LS86	4				
20	IC11	33059		74LS83	3				
19	IC10	33043		74LS55	1				
18	IC9	33019		74LS20	1				
17	IC8	33009		74LS08	3				
16	IC7	33001	L.S I.C	74LS00	2				
15	IC6	32086	TTL I.C	74160	1				
14	IC5	32039		7447	1				
13	IC4	32028		74166	2				
12	IC3	32027		74154	1				
11	IC2	32018		74161	4				
10	IC1	AAT 32011	TTL I.C	7474	4				
9	X-TAL	AA0 69539	X-TAL	10.968 MHZ	1				
8	J	62639	TINNED COPPER WIRE	0.5φ	28				
7	IS1	55787	I.C SOCKET	24P	6				
6	SOP	55154	ANGLE PIN HEADER	PS-50PA	2				
5	T	17665	CONNECTOR STICKER	T	1				
4	Q	17656		Q	1				
3	P	AA0 17653	CONNECTOR STICKER	P	1				
2	B.S	PS0 70004	P.C. BOARD STICKER		1				
1	AA0	17768	C.P.U - P.C. BOARD (A)		1				
REV. BY		REVIEWED BY		REMARKS					
SYM		REMARKS		REMARKS					
PARTS LIST									
TAITO CORPORATION									
NAME: T.T. POLARIS									
P.S. - C.P.U P.C. BOARD ASSY									
REV. BY		CAGE NAME NO.		INV. NO.					
A2		PSN/00002							
REMARKS		REMARKS		REMARKS					



\* ALL J(JUMPER), SEE NOTE-1

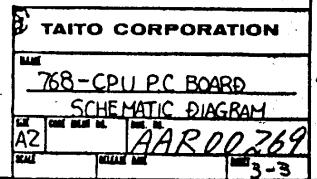


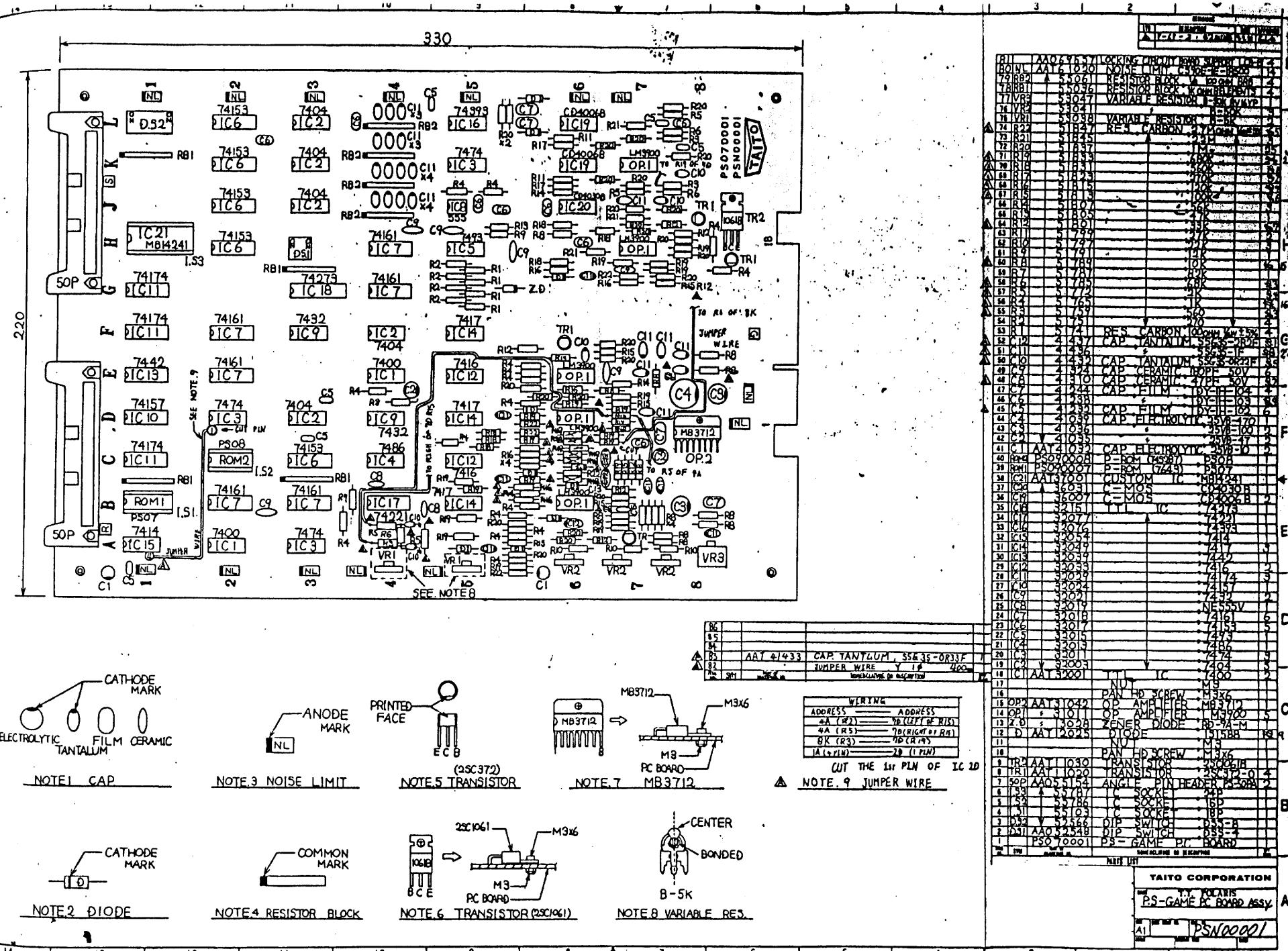
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SCHEMATIC DIAGRAM  
AAR00269

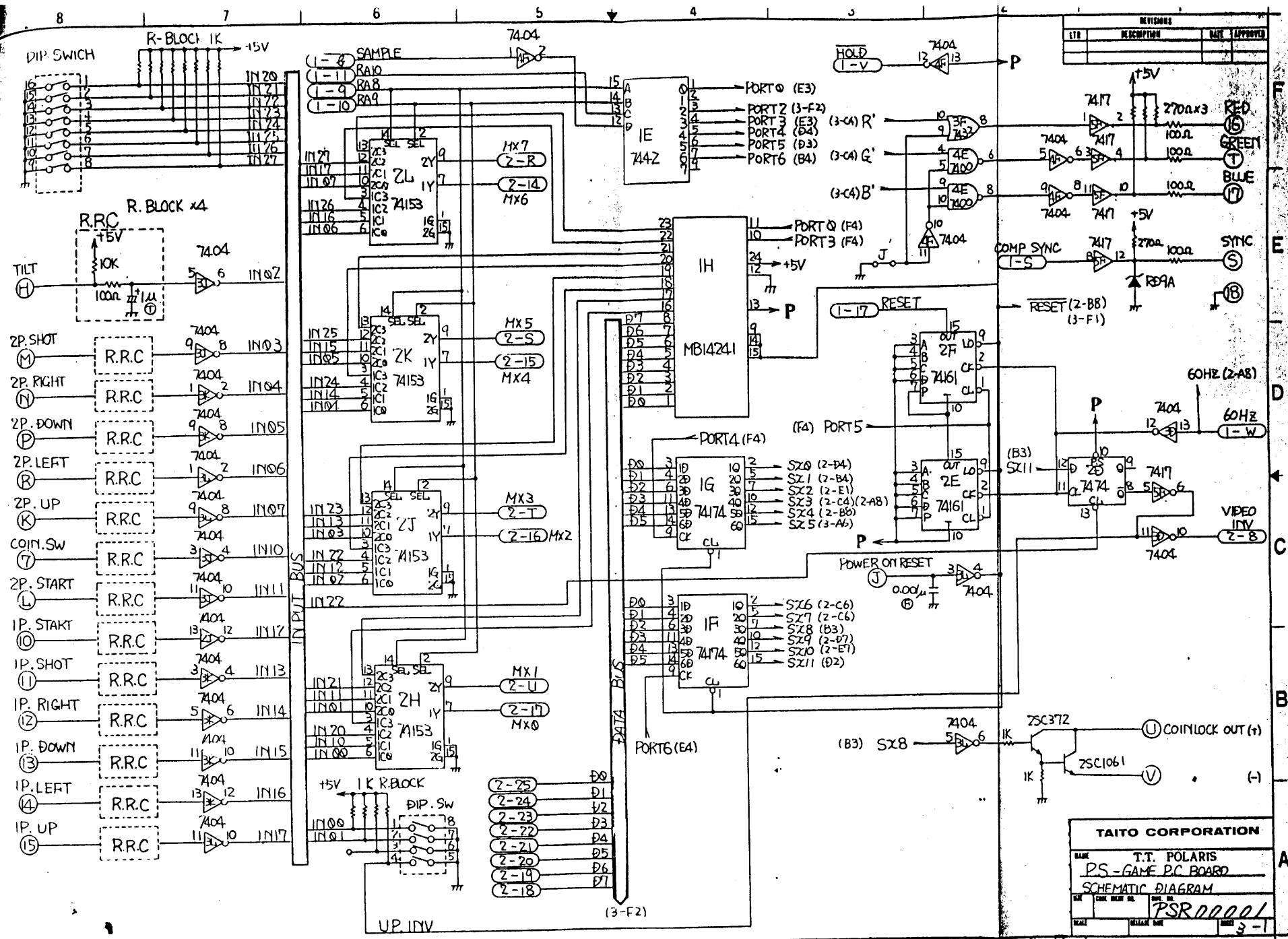


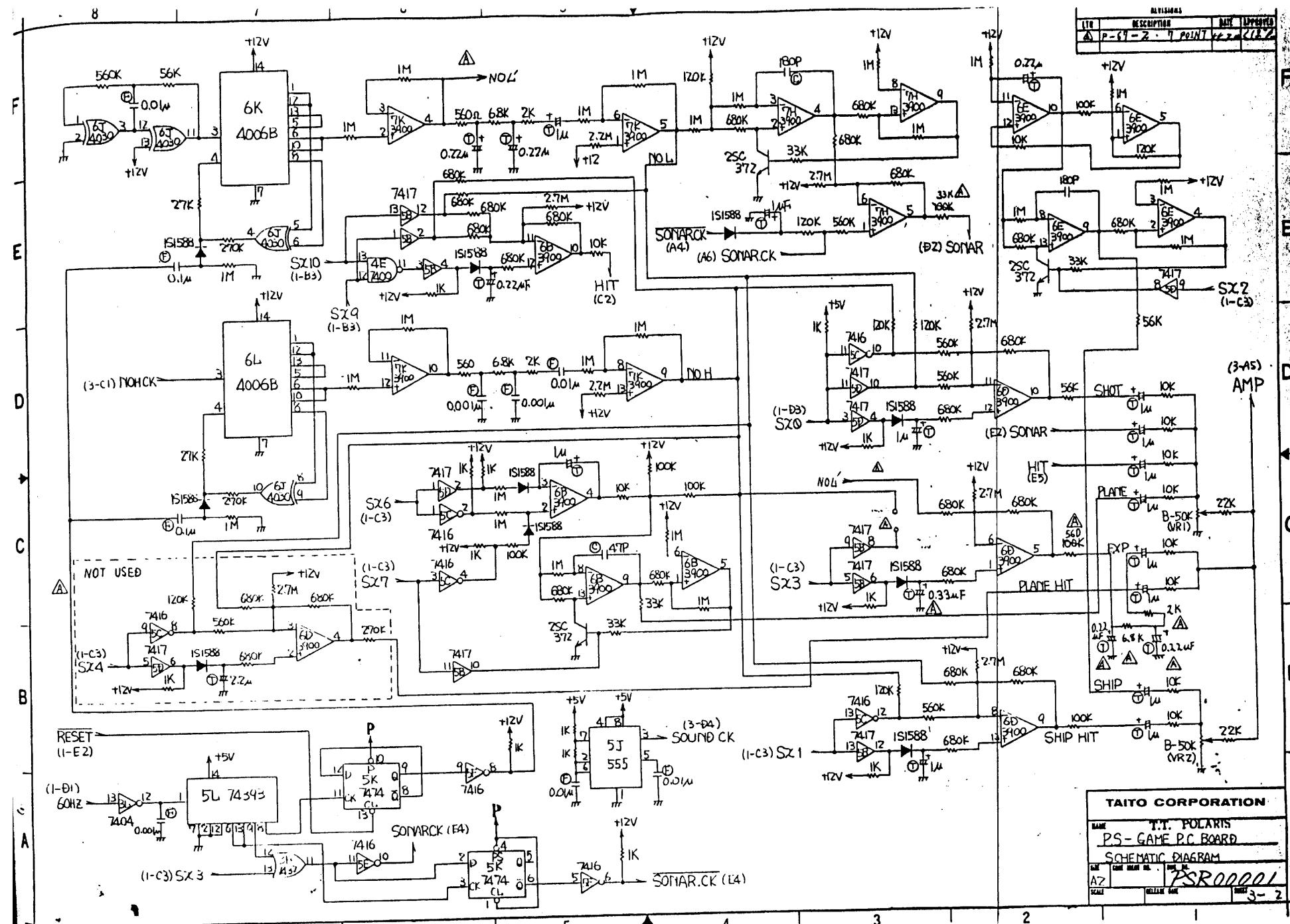
NOTE - JUMPE WIREING

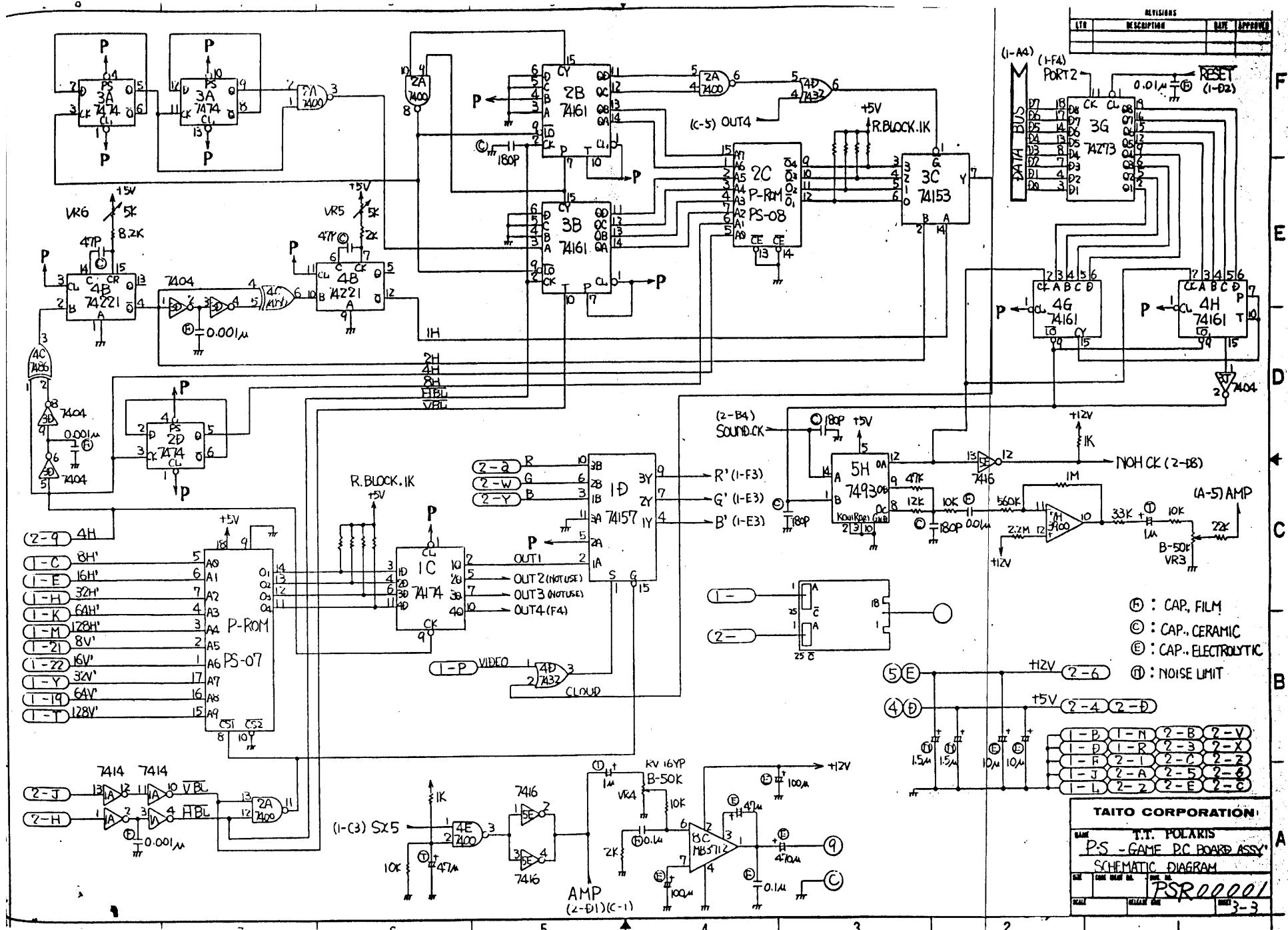
## NOTE - 2 P-ROM

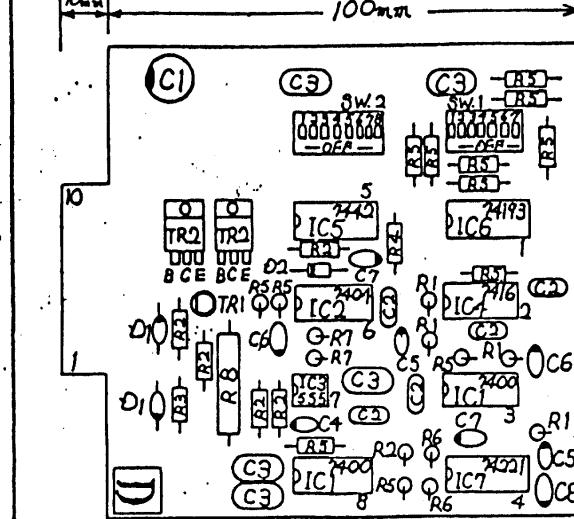






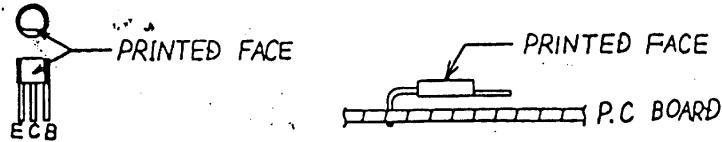






ELE. CATHODE MARK  
TAN. TANTALUM &  
NOTE. 1 CAP. ELECTROLYTIC

CATHODE MARK  
NOTE. 2 DIODE



NOTE. 3 TRANSISTOR(2SC458)

NOTE. 4 TRANSISTOR(2SC1061)

NOTE. 5 THE RELATION BETWEEN COIN AND CREDIT

	SW1							SW2							
	1	2	3	4	5	6	7	1	2	3	4	5	6	7	8
1COIN 1PLAY	ON	ON	ON	ON	ON	OFF	OFF	ON	OFF	OFF	OFF	OFF	ON	OFF	
2COIN 1PLAY	≡	≡	≡	≡	≡	≡	≡	OFF	ON	OFF	≡	≡	≡	≡	≡
3COIN 1PLAY	≡	≡	≡	≡	≡	≡	≡	OFF	ON	≡	≡	≡	≡	≡	≡
4COIN 1PLAY	≡	≡	≡	≡	≡	≡	≡	OFF	OFF	ON	≡	≡	≡	≡	≡
1COIN 2PLAY	ON	OFF	OFF	OFF	OFF	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	ON	
1COIN 3PLAY	OFF	ON	≡	≡	≡	≡	≡	≡	≡	≡	≡	≡	≡	≡	≡
1COIN 4PLAY	ON	ON	≡	≡	≡	≡	≡	≡	+	≡	≡	≡	≡	≡	≡

REVISIONS			
ltr	DESCRIPTION	DATE	APPROVED
31	R8 AAT55033	WINDING RESISTOR, 60OHM 2W ±10%	1
30	R7 51831	RES. CARBON, 560KOHM 1/4W ±5%	2
29	R6 51803	39K	2
28	R5 51789	10K	13
27	R4 51781	4.7K	1
26	R3 51777	3.3K	1
25	R2 51765	JK	6
24	R1 51741	RES. CARBON, 100OHM 1/4W ±5%	4
23	C8 41438	CAP. TANTALUM, SSG35-3R3F	1
22	C7 41421	SSG16-4R7F	2
21	C6 41419	SSG16-2R2F	2
20	C5 41418	SSG16-1F	2
19	C4 41414	CAP. TANTALUM, SSG16-0R20F	1
18	C3 41244	CAP. FILM → TDY-1H-104	5
17	C2 41238	CAP. FILM → TDY-1H-103	5
16	C1 41021	CAP. ELECTROLYTIC, 16V847μ	1
15	IC7 32077	TTL IC 74221	1
14	IC6 32044	74193	1
13	IC5 32039	7442	1
12	IC4 32033	7416	1
11	IC3 32019	NE555V	1
10	IC2 32003	7404	1
9	IC1 32001	TTL IC 7400	2
8	D2 12025	DIODE 1S1588	1
7	D1 12002	DIODE VO3C	2
6	TR2 11030	TRANSISTOR 2SC1061-B	2
5	TR1 AAT11005	TRANSISTOR 2SC458-C	1
4	SW2 AAO52566	DIP SWITCH DSS-8	1
3	SW1 52560	DIP SWITCH DSS-7	1
2	D 17623	CONNECTOR STICKER D	1
1	AA017766D	CREDIT P.C BOARD	1

ITEM NO	SYM	PLAT. NO	IDENTIFICATION NO	REV. NO

PARTS LIST

TAITO CORPORATION		
NAME: CREDIT P.C BOARD ASSY.		
SD	PLATE IDENT. NO.	PLATE. NO.
A3		AAM150011-D
SCAL	1/1	SELLER'S NAME

